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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/869,379 | 10/16/2001 | Kiyoshi Hotta | 358362010300 | 3866 |

7590 07/15/2003

Barry E Bretschneider
Morrison & Foerster
2000 Pennsylvania Avenue NW
Washington, DC 20006-1888

EXAMINER

WRIGHT, WILLIAM G

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1754

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DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/869,379

Applicant(s)

HOTTA ET AL.

Examiner

William G. Wright SR.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 and 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 5 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either Hurka or Sakomura et al. Sakomura et al. and Hurka both disclose the removal of arsenic from phosphoric acid by contacting the phosphoric acid with hydrochloric acid. (See the Abstract and column 2, line 24 - column 3, line 54 of Sakomura et al., and page 1, column 1, lines 11-51 and claim 1 of Hurka.) Arsenic would be removed from the phosphoric acid when contacted with the hydrochloric acid in the process of either

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Hurka or Sakomura et al. to no less extent than it would in the process recited in applicant's claims.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hurka or Sakomura et al. as applied to claim 1 above, and further in view of either Lowe et al. '098 or Lowe et al. '082. It would be further obvious from either Lowe et al. '098 or Lowe et al. '082 to include a chloride in the hydrochloric acid treatment step of either Hurka or Sakomura et al., since Lowe et al. '098 and Lowe et al. '082 both teach that arsenic should be removed from phosphoric acid by heating with chloride (see column 2, lines 62-64 and claim 13 of Lowe et al. '098, and column 2, lines 65-68 and claim 35 of Lowe et al. '082.), and one of ordinary skill in the art would appreciate the fact that if arsenic can be removed by treatment of phosphoric acid with hydrochloric acid, as shown by Hurka and Sakomura et al., and that it also can be removed by heating with chloride, as shown by Lowe et al. '082 and Lowe et al. '098, then it would also be removed by treatment with both hydrochloric acid and the chloride. Regarding claim 4, the disclosures of Lowe et al. '082 and Lowe et al. '098 are directed broadly to treatment with any chloride. It would be within the skill of one of ordinary skill in the art to determine suitable chlorides which could be employed in such process. Accordingly it would be prima facie obvious to employ a chloride of iron, copper or tin as the

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chloride, since it would be expected that any known chloride would be suitable.

Claims 7-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over either Segrist or Schrodter. Segrist and Schrodter both disclose methods for freeing arsenic and other heavy metals from polyphosphoric acid. (See Example 4 in the Table and column 4, lines 31-46 of Schrodter, and column 2, lines 41-62 and the Examples of Segrist.) Schrodter discloses an arsenic content of less than 0.5 ppm in Example 4, and Segrist discloses an arsenic content of 0.5 ppm in Examples 5 and 6. The purified polyphosphoric acid disclosed by Segrist and Schrodter would inherently contain the other metal contents as recited in claims 7-10, since Segrist and Schrodter both teach that other heavy metals are removed. In any event, it would be prima facie obvious to carry out the processes of Segrist and Schrodter to provide for the maximum contents of other metals as recited in claims 7-10, since one of ordinary skill in the art would recognize that such levels of metal content could be achieved according to the processes of Segrist and Schrodter by maximizing the reaction conditions and increasing reaction times, for example.

Scheivitz et al. and Maurer et al. are made of record for disclosing methods for dearsenication of polyphosphoric acid.

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Michalski et al. is made of record for disclosing a method for removing cationic impurities from wet processed phosphoric acid.

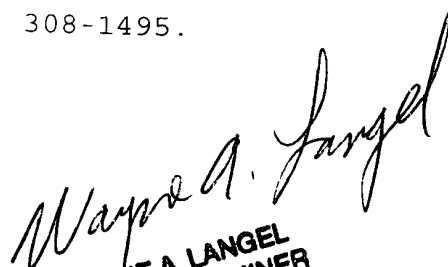
Any inquiry concerning this communication or earlier communications from the examiner should be directed to William G. Wright, Sr. whose telephone number is (703) 305-7792. The examiner can normally be reached on Monday through Thursday from 6:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on (703) 308-3837. The fax phone number for the organization where this application or proceeding is assigned are (703) 872-9310 for the regular communications and (703) 872-9311 for after final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1495.


W. G. Wright, Sr.:cdc

June 26, 2003


WAYNE A. LANGEL
PRIMARY EXAMINER